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HT-01-032

May 3, 2002

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To: Commissioner of Patents and Trademarks
Washington, D.C. 20231

Fr: George O. Saile, Reg. No. 19,572
20 McIntosh Drive
Poughkeepsie, N.Y. 12603

Subject: Serial No. 10/091,959 03/06/02

Yun-Fei Li et al.

EASILY MANUFACTURED EXCHANGE BIAS STABILIZATION SCHEME

Grp. Art Unit: 3729

INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation In An Application.

The following Patents and/or Publications are submitted to comply with the duty of disclosure under CFR 1.97-1.99 and 37 CFR 1.56. Copies of each document is included herewith.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on May 14, 2002.

Stephen B. Ackerman, Reg.# 37761

Signature/Date 5/14/02

S.S.P. Parkin, "Systematic Variation of the Strength and Oscillation Period of Indirect Magnetic Exchange Coupling through the 3d, 4d, and 5d Transition Metals," Physical Review Letters, Vol. 67, No. 25, pp. 3598-3601, 1991, discloses that oscillatory indirect magnetic exhange coupling via transition metals sandwiched between ferromagnetic lyers of Fe, Co, Ni, or Ni alloys is a general phenomenon.

B. Dieny, et al., "Giant magnetoresistance in soft ferromagnetic multilayers," Physical Review B, Vol. 43, No. 1, pp. 1297-1300, 1991, discloses that the in-plane magneto-resistance of sandwiches of uncoupled ferromagnetic (Ni81Fe19, Ni80Co20, Ni) layers separated by ultrathin nonmagnetic metallic (Cu, Ag, Au) layers is strongly increased when the magnetizations of the two ferromagnetic layers are aligned antiparallel.

U.S. Patent 6,266,218 to Carey et al., "Magnetic Sensors Having Antiferromagnetically Exchange-Coupled Layers for Longitudinal Biasing," discloses a GMR with a Bottom SV and patterned exchange process.

U.S. Patent 5,637,235 to Kim et al., "Shaped Spin Valve Type Magnetoresistive Transducer and Method for Fabricating the Same Incorporating Domain Stabilization Technique," discloses a BSV.

U.S. Patent 6,185,079 to Gill, "Disk Drive with Thermal Asperity Reduction Circuitry Using a Magnetic Tunnel Junction Sensor," discloses an exchange biases DSV.

U.S. Patent 5,856,897 to Mauri, "Self-Biased Dual Spin Valve Sensor," discusses a GMR with AFM and FM layers.

U.S. Patent 6,118,624 to Fukuzawa et al., "Magneto-Resistance Effect Element Having a Magnetic Biasing Film", discusses abutted junctions.

U.S. Patent 6,313,973 to Fuke et al., "Laminated Magnetorestrictive Element of an Exchange Coupling Film, an Antiferromagnetic Film and a Ferromagnetic Film and a Maagnetic Disk Drive Using Same," describes laminated exchange coupling.

Sincerely,

Stephen B. Ackerman,
Reg. No. 37761

Form PTO-1449

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

OIPE 2800/2106 MAY 17 2002 PATENT & TRADEMARK OFFICE

Docket Number (Optional)	Application Number
HT-01-032	10/091,959
Applicant: Yun-fei Li et al.	
Filing Date: 03/06/02	Group Art Unit: 3729

U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6266218	7/24/01	Carey et al.	360	324.12	10/28/99
	5637235	6/10/97	Kim et al.	216	22	6/17/96
	6185079	2/6/01	Gill	360	324.2	11/9/98
	5856897	1/5/99	Mauri	360	113	11/26/97
	6118624	9/12/00	Fukuzawa et al.	360	113	4/29/98
	6313973	11/6/01	Fuke et al.	360	324.1	6/30/99

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

—	S.S.P. Parkin, "Systematic Variation of the Strength and Oscillation Period of Indirect Magnetic Exchange Coupling through the 3d, 4d, and 5d Transition Metals," Phys. Rev. Lett, Vol. 67, P. 3598, 1991.
—	B. Dieny et al., "Giant Magnetoresistance in soft ferromagnetic multilayers", Phys. Rev. B, Vol. 43, P. 1297, 1991.

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.